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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,089	06/14/2001	Shunpei Yamazaki	0756-2325	3837

22204 7590 11/20/2002

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EXAMINER

VU, DAVID

ART UNIT PAPER NUMBER

2818

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/880,089

Applicant(s)

YAMAZAKI ET AL.

Examiner

DAVID VU

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

1. Claims 1-50 are rejected under 35 USC 102 (e) as being anticipated by Yamazaki et al (US 2002/0008286).

In re claims 1, 6-7; 11, 16-17; 21, 26-27; 31, 36-37; 41 and 46-47; Yamazaki et al, in related text **{[0121]-[0130]}** and figures (Figs. 19A-19E) disclose a semiconductor device comprising thin film transistors in a pixel portion and in a driver circuit formed over a same insulating surface, semiconductor device comprising: an electrode on insulating surface; an insulating film covering electrode; a semiconductor layer having at least a channel-forming region, a source region, and a drain region on insulating film, channel-forming region comprising: silicon and germanium; nitrogen and carbon at less than $5 \times 10^{18}/\text{cm}^3$ as detected by SIMS; oxygen at less than $1 \times 10^{19}/\text{cm}^3$ as detected by SIMS **[0074]**; and a plurality of crystal planes as measured by EBSP method **[0019]** in which an electron beam of 20 nm or less **[0021]** in a spot diameter is irradiated to a plurality of different points of said

Art Unit: 2818

channel-forming region, wherein ratios of plurality of crystal planes which form an angle equal to or less than 10° with a substrate surface is larger or equal to 20% in [101] plane, less than or equal to 3% in [001] plane, and less than or equal to 5% in [111] plane [0013]

In re claims 2, 12, 22, 32 and 42, wherein germanium contained in channel-forming region is larger than or equal to 0.1 atom %, and less than or equal to 10 atom % [0014]

In re claims 3, 13, 23, 33 and 43, wherein channel-forming region has a germanium concentration gradient in which germanium concentration becomes larger with increasing a distance from an interface with insulating film [0071]

In re claims 4, 14, 24, 34 and 44, wherein a concentration of a metal element contained in channel-forming region is less than $1 \times 10^{17}/\text{cm}^3$ [0012]

In re claims 5, 15, 25, 35 and 45, wherein metal element is one or a plurality of elements selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, and Au. [0016]

In re claims 8, 18, 28, 38 and 48, wherein a thickness of semiconductor layer is between 20 and 100 nm [0012]

In re claims 9, 19, 29, 39 and 49, wherein semiconductor device is an electro-luminescence display device [0130]

In re claims 10, 20, 30, 40 and 50, wherein semiconductor device is one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle-type display, a digital camera, a projector, and a mobile telephone [0153]

Art Unit: 2818

Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Vu whose telephone number is 703-305-0391. The examiner can normally be reached on Monday-Friday 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 703-308-4910. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

DV

David Vu


David Nelms
Supervisory Patent Examiner
Technology Center 2800